

WHAT IS CLAIMED IS:

1. A photothermographic material comprising at least (a) a photosensitive silver halide, (b) a reducible silver salt, (c) a reducing compound represented by the following general
5 formula (1), and (d) a binder:

Formula (1): $Q^1\text{-NHNH-R}^1$

wherein, in the general formula (1), Q^1 represents a 5- to
10 7-membered unsaturated ring bonding to NHNH-R^1 at a carbon atom, and R^1 represents a carbamoyl group, an acyl group, an alkoxy carbonyl group, an aryloxy carbonyl group, a sulfonyl group or a sulfamoyl group, provided that when R^1 is propyl carbamoyl group, Q^1 is not
15 2,3,5,6-tetrachloro-4-cyanophenyl group.

2. The photothermographic material according to Claim 1, wherein, in the compound represented by the general formula (1), R^1 represents a substituted carbamoyl group.
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3. The photothermographic material according to Claim 1, wherein, in the compound represented by the general formula (1), Q^1 represents a substituted phenyl group in which the sum of Hammett σ_p values of the substituents on the phenyl group is
25 1.6 or more.

4. The photothermographic material according to Claim 3, wherein, in the compound represented by the general formula (1), Q^1 represents a substituted phenyl group in which the sum of
30 Hammett σ_p values of the substituents on the phenyl group is 1.6 or more, R^1 is a substituted carbamoyl group represented by $-\text{C}(=\text{O})-\text{NH-R}^{11}$ and R^{11} is an alkyl or aryl group having 1-10 carbon atoms.

35 5. The photothermographic material according to Claim 1, wherein, in the compound represented by the general formula (1), Q^1 represents a 5- to 7-membered unsaturated heteroring bonding to NHNH-R^1 at a carbon atom.

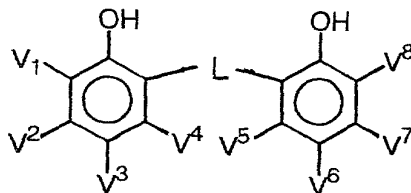
6. The photothermographic material according to Claim 5,
wherein, in the compound represented by the general formula (1),
Q¹ represents a quinazoline ring bonding to NHNH-R¹ at a carbon
5 atom.

7. The photothermographic material according to Claim 6,
wherein, in the compound represented by the general formula (1),
Q¹ represents a quinazoline ring bonding to NHNH-R¹ at a carbon
10 atom, R¹ is a substituted carbamoyl group represented by
-C(=O)-NH-R¹¹ and R¹¹ is an alkyl group or an aryl group having
1-10 carbon atoms.

8. The photothermographic material according to Claim 1,
15 wherein the compound represented by the general formula (1) does
not function as an ultrahigh contrast agent.

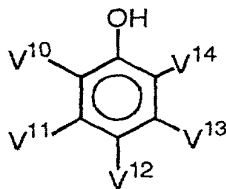
9. The photothermographic material according to Claim 1,
which further contains (e) a compound represented by the general
20 following formula (2) or (3) on the same surface of the support:

Formula (2)



wherein, in the general formula (2), V¹ to V⁸ each independently
represent hydrogen atom or a substituent, and L represents a
30 bridging group consisting of -CH(V⁹)- or -S- where V⁹ represents
hydrogen atom or a substituent:

Formula (3)



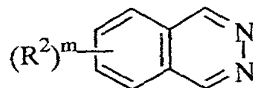
wherein, in the general formula (3), V^{10} to V^{14} each independently represent hydrogen atom or a substituent.

10. The photothermographic material according to Claim 5 9, wherein the amount of the compound represented by the general formula (1) is 0.1-10 mole % of the amount of the compound represented by the general formula (2) or (3).

11. The photothermographic material according to Claim 10 9, which further comprises (g) a hydrogen bond-forming compound on the same surface of the support.

12. The photothermographic material according to Claim 1, which further comprises (f) a compound represented by the 15 general formula (4) on the same surface of the support:

Formula (4)



wherein, in the general formula (4), R^2 represents hydrogen atom or a monovalent substituent, m represents an integer of 1 to 6 where $(R^2)_m$ means that 1-6 of Y independently exist on the phthalazine ring, and when m is 2 or more, adjacent two of R^2 20 may form an aliphatic ring or an aromatic ring.

13. The photothermographic material according to Claim 12, wherein, in the general formula (4), R^2 represents a monovalent substituent, and m represents an integer of 1 to 6. 30

14. The photothermographic material according to Claim 1, wherein (b) the reducible silver salt is a silver salt of a long chain aliphatic carboxylic acid.

15. A method for forming images, which comprises developing a photothermographic material according to Claim 1 by heating to form a silver image. 35

